

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-69 (canceled).

Claim 70 (currently amended): A system for ~~fixation~~ fixing and processing a tissue sample comprising:

a reaction chamber;

a solution in the reaction chamber, wherein the solution is a solution for fixing or processing a tissue sample;

the a tissue sample immersed in the solution;

an ultrasound transducer controlled by an ultrasound generator immersed in the solution;

an ultrasound generator wherein the ultrasound generator controls the ultrasound transducer;

a first sensor immersed in a the solution in a reaction chamber; and

a central processing unit responsive to a first signal from the first sensor wherein the central processing unit controls the ultrasound generator and adjusts the frequency or intensity of the ultrasound in response to said first signal from the first sensor, wherein the system causes the tissue sample to become fixed with no or minimal damage to the tissue sample.

Claim 71 (canceled).

Claim 72 (currently amended): The system of claim 70, wherein the first sensor detects a parameter of the sample selected from the group consisting of:

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a temperature,
a size,
a tissue type, and
a tissue density.

Claim 73 (currently amended): The system of claim 70, further comprising a second sensor selected from the group consisting of:

an ultrasound sensor, and
an infrared temperature sensor.

Claim 74 (currently amended): The system of claim 70, wherein the first sensor measures a frequency or an intensity of said ultrasound.

Claim 75 (currently amended): The system of claim 70 wherein the first sensor produces ~~readings~~ signals which are processed by ~~said~~ the central processing unit.

Claim 76 (canceled).

Claim 77 (previously presented): The system of claim 70 wherein the transducer generates ultrasound of a frequency of at least 100 KHz.

Claim 78 (previously presented): The system of claim 77 wherein the transducer generates ultrasound of a single frequency or of multiple frequencies in the range 100 KHz to 50 MHz.

Claim 79 (previously presented): The system of claim 70 wherein the ultrasound transducer produces ultrasound of a power in the range of 0.01-200 W/cm².

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Claims 80-91 (canceled).

Claim 92 (currently amended): The system of claim 70 wherein the ~~sample is immersed in~~
a solution is a solution of 10% formalin.

Claim 93 (currently amended): The system of claim 70 wherein the ~~sample is immersed in~~
solution is alcohol to dehydrate the tissue sample.

Claim 94 (currently amended): The system of claim 70 wherein the ~~sample is immersed in~~
solution is xylene.

Claim 95 (currently amended): The system of claim 70 wherein the ~~sample is immersed in~~
solution is paraffin.

Claim 96 (currently amended): The system of claim 70 further comprising a first pump and
a second pump, wherein the first pump pumps a second solution ~~is pumped~~ into the reaction chamber
and the second pump pumps ~~as a first solution is pumped~~ out of the reaction chamber.

Claim 97 (canceled).

Claim 98 (new): A system for processing tissue comprising:
a reaction chamber;
a solution in the reaction chamber, wherein the solution is a solution for fixing or processing
a tissue sample;
a tissue sample immersed in the solution;

an ultrasound transducer immersed in the solution, wherein the transducer generates ultrasound of a frequency of at least 100 KHz and a power in the range of 0.01-200 W/cm²;

an ultrasound generator wherein the ultrasound generator controls the ultrasound transducer;
a first sensor immersed in the solution; and

a central processing unit responsive to a first signal from the first sensor wherein the central processing unit controls the ultrasound generator and adjusts the frequency or intensity of the ultrasound in response to said first signal from the first sensor, wherein the system causes the tissue sample to become fixed with no or minimal damage to the tissue sample.

Claim 99 (new): The system of claim 98, wherein the transducer generates ultrasound of a single frequency or of multiple frequencies in the range 100 KHz to 50 MHZ.

Claim 100 (new): The system of claim 99, wherein the first sensor detects a parameter of the sample selected from the group consisting of:

a temperature,
a size,
a tissue type, and
a tissue density.

Claim 101 (new): The system of claim 99, further comprising a second sensor selected from the group consisting of:

an ultrasound sensor, and
an infrared temperature sensor.

Claim 102 (new): The system of claim 99, wherein the first sensor measures a frequency or an intensity of said ultrasound.

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Claim 103 (new): The system of claim 99, wherein the first sensor produces signals which are processed by the central processing unit.

Claim 104 (new): The system of claim 99 further comprising a first pump and a second pump, wherein the first pump pumps a second solution into the reaction chamber and the second pump pumps a first solution out of the reaction chamber.